

REMARKS/ARGUMENTS

Applicants respectfully request reconsideration and allowance of this application in view of the following comments.

Amendments made to the claims.

Claim 1 has been amended by introducing that the horizontal mixer **comprises at least one stirrer whose axis of rotation is arranged horizontally**. Said amendment is supported by the disclosure of para. [0012] of the application.

Claim 2 has previously been amended by deleting the possibility of the horizontal mixer being a “Becker mixer”.

Claim 6 has previously been cancelled and Claim 9 corrected to depend upon Claim 1 instead of from claim 6, after Claim 6 was cancelled.

Rejections under 35 USC § 102

Claims 1, 3, 5 and 9 stand rejected under 35 USC § 102(b) as being anticipated by WO2003/032740A1 to Nielsen (hereinafter “Nielsen”).

The Examiner finds Applicants' invention as claimed in Claims 1, 3, 5 and 9 anticipated by the Nielsen reference, as according to the Examiner the Nielsen reference teaches a method for thawing pieces of ice which contain protein-containing products and water (meat) (1: 4-5), whereby a mixing is performed at a temperature which is less than 10°C above the melting point of the ice (5:20, claims 1 and 5) and whereby the pieces of ice are melted to form a liquid phase (2: 8-10, 2:25-26), while any pieces of ice are continually submerged in the liquefied phase and

mixed with it (figs. 1-3, 5:1ff).

The Examiner bases his conclusion that the Nielsen reference teaches pieces of ice being melted to form a liquid phase and being continually submerged in the liquefied phase and mixed with it on his view that it's inevitable to have a part of the ice contained in the meat liquefied and joined with the brine added, which thereafter would result in the fact that further ice would be submerged in said "liquefied phase".

However, it should be noted that according to Applicants' invention as claimed in Claim 1, the liquefied phase and the ice are essentially of the same composition, which is different than what the Nielsen reference teaches. It is an essential feature of the teaching of the Nielsen reference to have "brine" added. Accordingly the brine added is diluted by the ice melted thus rendering the ice and the liquefied phase to be of a different compositions.

Further, the Nielsen reference does not disclose a "horizontal mixer", but a drum (4) with carriers (5), which might be heated by a liquid (6).

Accordingly, the Nielsen reference does not disclose that the "mixer" is heated, but teaches that the carriers (5) are heated.

Even though the heat transferred from said carriers (5) to the meat in the drum might cause the ice in the meat to (partially) melt, It is the brine which actually provides the necessary heat capacity to achieve the melting of ice (see 2: 22 to 3:5).

Furthermore Applicants now have amended Claim 1 to fully clarify the differences between the drum as taught by the Nielsen reference and the horizontal mixer of Applicants invention', by introducing the limitation that said horizontal mixer comprises at least one stirrer

whose axis of rotation is arranged horizontally. The apparatus of the Nielsen reference does not comprise such a device.

Hence, Applicants respectfully submit that for the foregoing reasons the rejection of Claims 1, 3, 5 and 9 as being anticipated by WO2003/032740A1 to Nielsen under 35 USC § 102(b) should now be withdrawn.

Rejections under 35 USC § 103

Claims 1, 4-5, 7 and 9 are rejected under 35 USC § 103 (a) as unpatentable over US 4,638,048 to “Foster” in view of US 607,228 to “Dyer”.

The Examiner combines the teachings of the Foster reference with those of the Dyer reference in stating that the Foster reference teaches each and every limitation of Applicants Claim 1, but the fact the a horizontal mixer is used to thaw the ice, while such limitation would be taught by the Dyer reference which can be readily combined with the Foster reference.

With regard to the Foster reference Applicants respectfully point out that the “snow” of the Foster reference is not continually submerged in the liquefied phase and mixed with it, but circulated in a submerged state after being introduced into the apparatus of the Foster reference (see 1: 62 to 2: 2).

Beyond that additional discrepancy between Foster and the invention of Claim 1, the Examiner is correct in stating that Applicants' invention and the teaching of the Foster reference are distinct with respect to the fact that the Foster reference does not teach or suggest use of a “horizontal mixer”.

To overcome the later discrepancy the Examiner turns to the Dyer reference in stating that the Foster and the Dyer reference are “analogous arts”, as both pertain to “the same problem-solving area” being the design of “rotary shaft mixers suited for stirring a substance in both its liquid and solid phases while undergoing a phase change, in particular ensuring constant circulation of the crystalline phase through the thawing zone of the mixing chamber (Foster 1: 64-67; Dyer 1:15-17).

Applicants simply can not understand how the Examiner could find the Foster and the Dyer reference to pertain to “analogous arts”. Nor can Applicants understand how one of ordinary skill in the art could ever be motivated to turn to the Dyer reference when desiring to solve any technical problem resulting from the comparison of Applicants' invention and the teachings of the Foster reference.

The Foster reference pertains to a method and an apparatus for “blood plasma treatment” (1: 10-13), being a technical area, which is also envisaged by Applicants' invention (see Example 2 of the Application).

As outlined in Applicants' invention the techniques used in the prior art (such as the Foster reference) are disadvantageous as they use vertically arranged vessels (see paras. [0004] – [0005] of Applicants' published application).

One problem associated with such an alignment (amongst others) is that it's possible in methods like these that ice pieces may freeze together and form a coherent mass rotating with the stirrer without any relative motion. Another problem is that it still might be possible to make the material to be thawed subject to intense thermal stress (see again paras. [0004]-[0005]).

Accordingly the problems concerned here are linked to the fact that a frozen product needs to be brought to a molten state in a gentle and secure way.

The Dyer reference however refers to (intensively heated) brines of sugar (syrup), which need to be conveyed, while the water is evaporated and thus the sugar is crystallized.

Considering – for purely academic reasons only – crystallization a change of phase of the same material – as stipulated by the examiner – which in fact is not true, one of ordinary skill in the art would still not refer to the teaching of the Dyer reference to overcome the discrepancy between applicant's invention and the teachings of the Foster reference, as the Dyer reference desires to convey a hot mixture, which is (partially) evaporated. Particularly, the Dyer reference neither contains any hint or suggestion that the apparatus employed or method shown might be in any way suitable in thawing anything nor that the processing is gentle to the material conveyed.

Furthermore – as implied above – crystallization is not a change of phase of a material. Crystallization is the transition to the maximum soluble concentration of a material in a solvent. With regard to the Dyer reference it is the transition to the maximum solubility of sugar in water by means of evaporation of the water.

Thus the teachings of the Dyer reference are neither related to Applicant's invention nor to the teaching of the Foster reference. It should further be noted that Applicant's claimed invention as well as the teaching of the Foster reference particularly pertain to thawing and not to any apparatuses employed therein.

Accordingly there is nothing that would motivate one of ordinary skill in the art of THAWING of frozen materials to refer to the Dyer reference.

Hence, Applicants respectfully submit that for the foregoing reasons the rejection of Claims 1, 4-5, 7 and 9 as being unpatentable over US 4,638,048 to Foster in view of US 607,228 to Dyer under 35 USC § 103 (a) should now be withdrawn.

Claims 2 and 3 are rejected under 35 USC § 103 (a) as unpatentable over Foster in view of Dyer as applied to Claim 1 and further in view of US 4,233,676 to “Lücke”.

The Examiner correctly stipulates that the Lücke reference teaches a “mixing mechanism”. Accordingly the Lücke reference does not pertain to the technical area of “thawing” frozen material.

The Examiner further contends that the Lücke reference teaches a “mixing mechanism (...) for heterogeneous mixing” by referring to (2: 5-9). It is respectfully pointed out that the cited passage forms part of the discussion of the (unfavorable) prior art discussed by the Lücke reference. Thus no teaching or suggestion can be drawn from this, but the fact that in the prior art certain mixing tools were unfavorable. Accordingly and further due to the fact the Lücke reference does not teach or suggest a horizontal mixer comprising at least one stirrer whose axis of rotation is arranged horizontally and whereby the pieces of ice are melted to form a liquid phase and during such melting, any floating pieces of ice are continually submerged in the liquefied phase, the Lücke reference can not help to overcome the discrepancies between the Foster and Dyer references as to Applicants invention as to Claims 1, 2 and 3 as outlined before.

In short, Applicants respectfully submit that for the foregoing reasons the rejection of Claims 2 and 3 as being unpatentable over Foster in view of Dyer as applied to Claim 1 and further in view of US 4,233,676 to “Lücke under 35 USC § 103 (a) should now be withdrawn.

Applicants believe that the foregoing constitutes a bona fide response to all outstanding rejections. Furthermore Applicants kindly submit that the corresponding European case has already been allowed under EP 1 697 029 B1 on 2008-02-06 and no opposition has been filed against such an allowance.

Applicants also believe that this application is in condition for immediate allowance. However, should any issue(s) of a minor nature remain, the Examiner is respectfully requested to telephone the undersigned at telephone number (212) 808-0700 so that the issue(s) might be promptly resolved.

Early and favorable action is earnestly solicited.

Respectfully submitted,
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